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PARTICIPATION OF LOCAL SERVICE PROVIDERS IN SYSTEMIC MARKET APPROACHES IN THE DAIRY SECTOR OF RANGPUR DISTRICT

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ABSTRACT

The main purpose of the study was to determine the participation of Local Service Providers (LSPs) in systemic market approaches (SMA) in dairy sectors in two Upazilla Pargacha and Badargonj under Rangpur district. Ninety-nine (99) LSPs were randomly selected as sample from an updated list of 495 LSPs. A pretested and structured interview schedule was used to collect data from the respondents during 16 August to 17 September 2018. Simple and direct questions with different appropriate scales were used to obtain information. Descriptive statistics, correlation, and multiple regression analysis were used. The top-ranked activities regarding the participation of LSPs was referral linkage with DLS for the critical or serious condition of livestock treatment, linkage with dairy producers' group to assess the demand of information, develop collection point's adjacent place of the community. Slightly above four-fifths (84.8 percent) of the respondent had high participation in systemic market approaches. Correlation analysis indicated that among seven selected characteristics of the respondent's annual income, cosmopolitanness, training received, innovativeness, and extension media contact of the respondents had significant positive relationship with their participation in SMA, however, age and family size had no significant positive relationship. Regression analysis indicated that cosmopolitanness, training received, innovativeness, and extension media contact of the respondents had a positive contribution with their participation in SMA. The top-ranked problem (1st) faced by the LSPs was 'legal permission from Government authority and apparently, the lowest proportion of LSP faced problems on 'Lack of vehicle service for their movement' service on dairy subsectors.

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INTRODUCTION

Livestock has become an important farming system in Bangladesh for a long time. This sector is an integral component of the complex farming system in Bangladesh as it is not only a source of milk protein but also a major source of farm power services as well as employment. The sector provides full-time employment for 20 percent of the total population and part-time employment for another 50 percent (Rahman et al., 2014). The contribution of livestock to the gross domestic product (GDP) is only 1.79% (Alam, 2021). The rural economy is revolving around livestock animals. Not only is that thousands of local and foreign companies are doing business in this sector (Alam, 2021).

However, the livestock sector has an impact on social and economic changes in rural areas through employment and income-generating activities. These changes are recognized by both the government and the NGOs (Rahman et al., 2015). Therefore, given the versatile nature of the potential contribution offered by the livestock sector in Bangladesh, some attempts to provide an evaluation of this sector by examining its availability, distribution, growth, performance, and future potential (Rahman et al., 2014). This is followed by a review of the role contend by livestock product within the generation of financial gain and therefore the consumption bundle of the households. The population of livestock tremendously increased day by day and is a viable business in the household level with the full support of social acceptance. A snapshot of livestock has been presented in Table 1.

Table 1. Livestock population of Bangladesh (in lakh number)

| Name of Species | 2012-13 | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-2020 |
|-----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Cattle | 233.41 | 234.88 | 236.36 | 237.85 | 239.35 | 240.86 | 242.38 | 243.91 |
| Buffalo | 14.50 | 14.57 | 14.64 | 14.71 | 14.78 | 14.79 | 14.86 | 14.93 |
| Sheep | 31.43 | 32.06 | 32.70 | 33.35 | 34.01 | 34.68 | 35.37 | 36.07 |
| Goat | 252.77 | 254.39 | 256.02 | 257.66 | 259.31 | 261.00 | 262.67 | 264.35 |
| Total | 532.11 | 535.90 | 539.72 | 543.57 | 547.45 | 551.33 | 555.28 | 559.26 |

(Source: DLS, 2020)

Dairying in Bangladesh has been transforming from traditional subsistence to a more market-oriented and enterprise-driven approach in the dairy production system (Uddin et al., 2020a) which would open the opportunity for dairy farmers to exploit the rising demand on milk and milk products at national as well as global dairy markets. Bangladesh has milk production of 9.92 million tons in 2018 (DLS, 2019). To increase the availability of milk at the consumers' level might depend on the supply of adequate quality milk at an affordable price which can be done by ensuring the responsible actions by the topmost processors, dairy farmers, and other marketing agencies. Concerning the processing profile in Bangladesh, only 9% of the total milk production is delivered to the processors, and the remaining 91% is traded informally (IFCN, 2019). Along the supply chain of milk production to consumption, milk price is one of the major factors for dairy sector competitiveness (Roland et al., 2016) because of its huge influence on the future development of the sector. Creating updated knowledge on the current situation and trends back to the past on milk production is of the utmost importance in making the reliable forecasting of the future growth and dynamics of the dairy sector development (Uddin et al., 2020b). In order to predict the future, the past and the present have to be carefully analyzed since the future is the further development of the present (Roland et al., 2016). In this regard, the following Table 2 shows the actual scenario of milk and meat production.

Table 2. Demand, production, and availability of milk, meat, and eggs (2019-20) *

| Name of the Products | Demand | Production | Availability |
|---|---|------------------------|-------------------------|
| Milk | 152.02 Lakh Metric Ton (250 ml/day/head) | 106.80 Lakh Metric Ton | 175.63 (ml/day/head) |
| Meat | 72.97 Lakh Metric Ton (120 gm/day/head) | 76.74 Lakh Metric Ton | 126.20 (gm/day/head) |
| * The estimated population of the country on 1st July 2019: 16 crore 66 lakhs | | | |

(Source: DLS, 2020)

This has led to a continuous widening of the gap between milk supply and demand. Institutional support and policies play a major role in narrowing this gap and should therefore be considered in developing strategies for dairy development (Uddin et al., 2011). SHOMOSHTI aims to support rural households, particularly the poor and disadvantaged, by developing market systems and enhancing inclusive basic services (related to income, nutrition & health), which will result in higher incomes, improved livelihoods, and social development outputs (CARE, 2017). The study was conducted with the following objectives; i) To determine the extent of participation of the Local Service Providers (LSPs) in systemic market approaches at dairy sector; ii) to describe some selected characteristics of the Local Service Provider; iii) to explore the relationship and contributions of the selected characteristics of the Local Service Provider with their participation in systemic market approaches in dairy sector; iv) to identify the problems faced by the Local Service Provider in systemic market approaches in dairy sectors.

MATERIALS AND METHODS

Selection of the Study Area

The study was conducted in two Upazilla Pargacha and Badargonj under Rangpur district where Local service providers (LSPs) are providing their service who have been implementing by the Shomoshti project at Gram Bikash Kendra (GBK).

Population and Sample

Shomoshti project has been working among four selective districts such Rangpur, Dinajpur, Nilphamry and Gaibandha, by implementing Gram Bikash Kendra (GBK). Each district has selective Upazilla for implementing the Shomoshti project activates. The researcher has purposively selected two upazillas like as Badargonj and Pargacha, from the Rangpur district due to the dairy-producing area accordingly to project criteria. Each Upazill has 10 unions, but the researcher has selected the five unions among them purposively for inclusive study.

An updated list of 495 Local Service Providers (LSPs) was collected from the Department of Upazilla Livestock office record and consequently verify and validated by ACI Godrej Agrovet Pvt. Ltd. and Agro-vet division, SQUIRE Pharmaceuticals Ltd. Bangladesh. Company and Shomosti project survey database. Out of them, a sample of 99 (20 % of total LSPs population) Local service providers were selected random sampling method. Simultaneously, a reserve list of 10 LSPs was made to use in case of the non-availability of sampled LSPs. The detailed distribution of population and sample is shown in Table 3.

Table 3. Union wise distribution of the population and sample

| Name of the Union | Population | Sample | Reserve list |
|---------------------------|------------|-----------|--------------|
| Badargonj Upazilla | | | |
| Damodarpur union | 51 | 11 | 1 |
| Radhanagar union | 50 | 10 | 1 |
| Kalupara union | 52 | 10 | 1 |
| Bishnapur union | 50 | 10 | 1 |
| Ramnathpur union | 48 | 9 | 1 |
| Upazilla total | 251 | 50 | 5 |
| Pargacha Upazilla | | | |
| Itakumary union | 48 | 10 | 1 |
| Annadanagar union | 47 | 9 | 1 |
| Chhaola union | 50 | 10 | 1 |
| Tambulpur | 52 | 11 | 1 |
| Kandi | 47 | 9 | 1 |
| Upazilla total | 244 | 49 | 5 |
| Total | 495 | 99 | 10 |

Data Collection Instrument

In order to collect relevant data, a structured interview schedule was prepared keeping the objectives in mind. The questions and statements contained in the schedule were simple, direct, and easily understandable. Necessary correction, addition, and adjustment were made afterward in the schedule on the basis of the pre-test results. The interview schedule was then finalized for the collection of data.

Data Processing and Analysis

First of all, the collected data were coded, summarized, and processed for analysis. All possible errors and inconsistencies were eradicated for verification of the data. Then the collected data were analyzed with a computer-based software - SPSS (Statistical Package for Social Sciences) version 22, and tables and graphs were prepared with MS Excel (Microsoft Excel 2010).

Measurement of Variables

Participation of the LSPs in systemic market approaches in the dairy sector was the dependent variable of the study. Participation of the LSPs in systemic market approaches at dairy sectors is measured by twenty major activities with three (3) major aspects. Here the three aspects are support to access quality input and services, access to market information, and the rest one assist in ensuring market facilitation. Each LSP was asked to indicate how regularly they participated in each of 20 systemic market approaches activities along a 4-point rating scale. The scale responses were given scores weights as 3 for 'regularly', 2 for 'occasionally', 1 for 'seldom' and 0 for 'not at all' (Karim, 2015). Overall participation of the local service provider was determined by summing the score obtained for all the concerned activities. Therefore, the composite extent of service provision score of respondents in systemic market approaches could range from 0 to 60, where 0 indicates no participation and 60 indicating very high participation of the LSPs in systemic market. Participation of the LSPs in systemic market approaches for each activity was computed by using the following formula for the comparative and composite process:

$$\text{Participation Index (PI)} = N_{RP} \times 3 + N_{OP} \times 2 + N_{SP} \times 1 + N_{NP} \times 0$$

Where,

N_{RP} = Total number of respondents expressed 'regularly' participation for an activity

N_{OP} = Total number of respondents expressed 'occasionally' participation for an activity

N_{SP} = Total number of respondents expressed 'seldom' participation for an activity

N_{NP} = Total number of respondents expressed 'not at all' participation for an activity

Thus, PI could be ranged from 0 to 297, while 0 indicating no participation and 297 indicating high participation. The seven selected characteristics of the Local Service Provider, namely age, family size, annual income, cosmopolitanism, training received, innovativeness, and extension media contact constituted the independent variables of this study. These selected characteristics were measured by appropriate measurement techniques.

RESULTS AND DISCUSSION

Participation of LSPs in Systemic Market Approaches at Dairy Sectors

Support to access quality input and services at dairy group

Data presented in Table 4 shows that participation of LSPs to access quality input and services was measured considering seven activities. The top-ranked activities of LSPs regarding participation to access quality input and services were 'referral linkage with DLS for the critical or serious condition of livestock treatment' followed by 'ensures qualitative treatment services at the community in minimum profit'. In this connection, LSP is the key person to deliver the service from DLS to the dairy producer level. Due to the lack of required manpower of DLS, LSP has been performing the same support with the assistance of DLS. Without the existence of DLS, the producer would not get quality support on dairy management and treatment. 'Assistance to the dairy producer for getting quality input (feed & medicine) from vendors' is the 7th position in the view of uneven involvement of private sector and company's policy. So, increase and enhance the collaboration and market linkage of the viable private sector for establishing systemic market linkage

Table 4. Rank wise distribution of the LSPs support to access quality input & services according to their participation

| Sl. No. | Participation Approach | Extent of participation | | | | PI* | Rank order |
|---------|--|-------------------------|--------|-----|------------|-----|-------------------|
| | | High | Medium | Low | Not at all | | |
| 1. | Ensure qualitative treatment services at community at minimum profit | 39 | 46 | 10 | 4 | 219 | 2.5 th |
| 2. | Assistance to dairy producer for getting quality input (feed & medicine) from vendors | 11 | 63 | 2 | 23 | 161 | 7 th |
| 3. | Arrange vaccination campaign at community level by assistance of DLS | 43 | 15 | 24 | 17 | 183 | 6 th |
| 4. | Linkage with private sectors (company & dealer) for quality services | 31 | 44 | 7 | 17 | 188 | 5 th |
| 5. | Referral linkage with DLS for critical or serious condition of livestock treatment | 84 | 14 | 1 | 0 | 281 | 1 st |
| 6. | Collaborate with dairy producers or dairy association for reasonable price with output market/ vendors | 43 | 32 | 19 | 5 | 212 | 4 th |
| 7. | Volunteers support at community of dairy LSP by the assistance of ULO/VS | 46 | 36 | 9 | 8 | 219 | 2.5 th |

*Participation Index

Assists to access market information at dairy group

Findings presented in Table 5 showed that the highest-ranked activities of LSPs regarding participation to access information was 'linkage with dairy producers' group to assessing the demand of information from dairy groups' because of main activities of LSPs are assessing the needs of producer group for dairy management and share with the private sector, companies, feed vendors, suppliers, and DLS personnel for planning for qualitative support according to their requirements. By sharing information, LSP has set a win-win situation for the systemic market. The 'technology and innovation found from Upazila DLS office' was the 7th ranked position because there is a huge gap found during the survey with Upazilla DLS office support and dairy producer group due to limitation of manpower of DLS. In this situation, LSPs are the key performer to reduce the existing crack system of service provision by their own involvement. For smoothly delivering new technology and innovation, LSPs engagement is essential for accessing information.

Table 5. Rank wise distribution of the LSPs assists to access market information according to their participation

| Sl. No. | Participation Approach | Extent of participation | | | | PI* | Rank order |
|---------|---|-------------------------|--------|-----|------------|-----|-----------------|
| | | High | Medium | Low | Not at all | | |
| 1. | Technology & innovation found from upazilla DLS office | 32 | 49 | 10 | 8 | 204 | 7 th |
| 2. | Facilitate the private sector for new technologies & services in community | 41 | 47 | 11 | 0 | 228 | 3 rd |
| 3. | Disseminate the training information at community | 28 | 58 | 8 | 5 | 208 | 6 th |
| 4. | Share the vaccination campaign information at dairy LSP | 43 | 45 | 7 | 4 | 226 | 5 th |
| 5. | Linkage with dairy producers' group to assess the demand of information from dairy groups | 71 | 17 | 2 | 9 | 249 | 1 st |
| 6. | Collaborate with the Upazilla level service provider for information | 45 | 42 | 12 | 0 | 231 | 2 nd |
| 7. | Meeting with different market actors for sharing business information | 43 | 45 | 8 | 3 | 227 | 4 th |

*Participation Index

Local service provider ensures market facilitation at dairy groups

Data presented in Table 6 revealed that the 1st ranked participation of LSPs ensures market facilitation is the 'develop collection point adjacent place of the community'. The collection point is the main gathering place where the producer is affordable and getting the optimum profit as well as the price of the product. Besides this, they are capable of bargaining with the outer buyer for the optimum price. Side by side, buyers are more interested in collecting the product from an aggregated place for purchasing a huge amount at a time. So, the collection point is the main place to develop a systemic market environment established by the LSPs' service provision where Win-Win situation is established. On the other hand, data showed that 'workshop with private sectors and DLS quarterly' is the 6th position because of the irregular extent of service provision by LSPs with respective DLS meetings and workshops. LSPs are not entitled to allow or entitle all meetings and workshops with DLS personnel due to government legislation.

Table 6. Rank wise distribution of the LSPs ensures market facilitation according to their participation

| Sl. No. | Participation Approach | Extent of participation | | | | PI* | Rank order |
|---------|--|-------------------------|--------|-----|------------|-----|-----------------|
| | | High | Medium | Low | Not at all | | |
| 1. | Facilitating the knowledge about systemic market approaches at community | 55 | 40 | 4 | 0 | 249 | 3 rd |
| 2. | Meeting with producers' groups and output market actors for better price | 38 | 52 | 9 | 0 | 227 | 4 th |
| 3. | Workshop with private sectors and DLS quarterly | 24 | 67 | 1 | 7 | 207 | 6 th |
| 4. | Develop entrepreneur for input & medicine at the nearest community | 57 | 22 | 10 | 10 | 225 | 5 th |
| 5. | Develop collection point adjacent place of the community. | 74 | 15 | 3 | 7 | 255 | 1 st |
| 6. | Establishment Artificial Insemination (AI) centre at community | 61 | 34 | 2 | 2 | 253 | 2 nd |

*Participation Index

Overall participation of LSPs in systemic market approaches

Data presented in Figure 1 showed that slightly above four-fifths (84.8 percent) of the respondents had high participation in systemic market approaches as compared to 15.2 percent had medium, and 0.00 percent had low participation in systemic market approaches in the dairy sector. Rahman (2015) also found close findings in her study. This is due that the respondents are conscious about their job. They provide feed-based and embedded technical, business, and economic services regularly to address troubles faced by the producers.

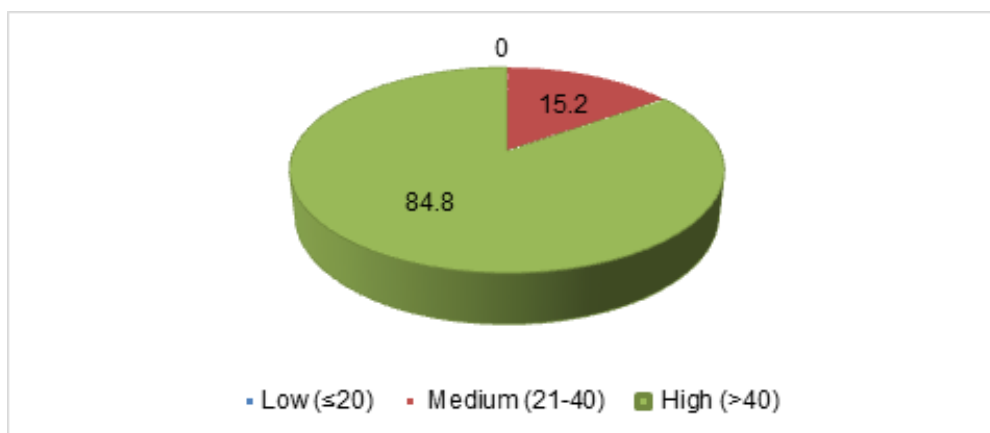


Figure 1. Distribution of the LSPs according to their overall participation in systemic market approaches

Selected Characteristics of the Local Service Providers

Table 7 indicated that below half (43.4 percent) of the total respondents belonged to the young aged. Keya (2018) also found similar findings in her study. This is because LSPs are a professionally serving service at the community level and very much laborious and committed service delivery compared to others. That's why; maximum of the respondents belonged to the active age group having strong encouragement and hardworking ability. Slightly above three-fifths of the respondents (61.6 percent) have a medium-sized family. Rahman (2015) also found close findings in her study. Data indicated that the highest proportion (76.7 percent) of the LSPs had medium annual income. The LSPs profession is the economically profitable and common representation of the service provider of Bangladesh. A huge majority (93.9 percent) of the LSPs had medium cosmopolitanness. Karim (2015) also found similar findings in her study. Cosmopolitanness means LSPs movement of them outside of his own service delivery area. When LSPs frequently moved outside of his own area makes his income more, attitude positive, and increase participation with different government agencies, market actors, and dairy producer level. Slightly above three-fifths, 60.6 percent of the respondents had received medium training. This is due to livestock science as scientific knowledge and technology-based of the service provision system. No one can deliver their services without effective training. The sustainability of this service is mostly their knowledge, skill, experience, and capacity, which they learned from the affordable training program. Training helps the respondents to acquire knowledge and develop skills in improved practices of dairy management. As a result, the LSPs having no previous training are likely to be deficient in knowledge and skills and face more constraints. Finally, they could not sustain themselves in the selective market system. Slightly below half (48.5 percent) of the respondents had high innovativeness towards dairy management. As the respondents had high innovativeness, they are engaged in dairy treatment and input service. The respondents strongly said that they were engaged in the market and private sector linkage and became benefited by increased availability of dairy inputs at the producer level. Therefore, the high innovativeness of the LSPs is favorable for the adoption of modern technology. This might be due to the nature of competitive service by LSPs of this study area. The majority (43.4 percent) of the LSPs had medium contact with different extension media. This may be due to the reason that the respondents contact strongly with different extension media.

Table 7. Descriptive statistics of the selected characteristics of the LSPs (N= 99)

| Characteristics | Scoring method | Range Observed (Possible) | Categories | Respondents | | Mean | SD |
|-------------------------|---------------------|---------------------------|---------------------|-------------|------|--------|--------|
| | | | | No. | % | | |
| Age | No. of year | 25-55 (Unknown) | Young (≤ 35) | 43 | 43.4 | 38.69 | 7.15 |
| | | | Middle (36-50) | 42 | 42.4 | | |
| | | | Old (> 50) | 14 | 14.2 | | |
| Family size | No of family member | 3-7 (Unknown) | Small (≤ 3) | 30 | 30.3 | 4.69 | 1.31 |
| | | | Medium (4-6) | 61 | 61.6 | | |
| | | | Large (> 6) | 8 | 8.1 | | |
| Annual income | ('000' Tk.) | 145-720 (Unknown) | Low (< 336) | 15 | 15.2 | 470.77 | 132.25 |
| | | | Medium (338.01-602) | 76 | 76.7 | | |
| | | | High (> 602) | 8 | 8.1 | | |
| Cosmopolitanness | Score | 6-15 (0-18) | Low (≤ 6) | 1 | 1.0 | 10.04 | 1.81 |
| | | | Medium (7-12) | 93 | 93.9 | | |
| | | | High (> 12) | 5 | 5.1 | | |
| Training received | Days | 2-48 (Unknown) | Short (1-7) | 7 | 7.1 | 19.78 | 9.65 |
| | | | Medium (8-21) | 60 | 60.6 | | |
| | | | Long (> 21) | 32 | 32.3 | | |
| Innovativeness | Score | 3-27 (0-30) | Low (≤ 10) | 4 | 4.0 | 18.62 | 6.25 |
| | | | Medium (11-20) | 47 | 47.5 | | |
| | | | High (> 20) | 48 | 48.5 | | |
| Extension media contact | Score | 4-32 (0-36) | Low (≤ 12) | 15 | 15.2 | 21.81 | 6.48 |
| | | | Medium (13-24) | 43 | 43.4 | | |
| | | | High (> 24) | 41 | 41.4 | | |

Relationships and Contribution between Selected Characteristics of the Local Service Providers with Their Participation in Systemic Market Approaches at Dairy Sector

Co-efficient of correlation was computed in order to explore the relationships between each of the selected characteristics of the Local Service Providers with their participation in systemic market approaches in the dairy sector. The relationships between each of the selected characteristics of the Local Service Provider with their participation in systemic market approaches are shown in Table 8. The findings indicated that the annual income of the LSPs had a significant positive relationship with their participation in systemic market approaches. Sufian et al. (2016), Diti (2014), and Parul (2014) also found similar findings in their studies. Cosmopolitaness of the LSPs had a significant positive relationship with their participation in systemic market approaches. Rashid (2006) also found that the relationship between cosmopolitaness and participation in agricultural activities was significant. Training received of the LSPs had a significant positive relationship with their participation in systemic market approaches. Sufian et al. (2016) and Parul (2014) also found similar findings in their studies. This means that LSPs who were more trained have more participation in systemic market approaches in the dairy sector. The innovativeness of the LSPs had a significant positive relationship with their participation in systemic market approaches. This means that LSP, who were more innovative they have more participation in systemic market approaches in the dairy sector. Diti (2014) also found a similar relationship in her study. Extension media contact of the LSPs had a significant positive relationship with their participation in systemic market approaches. Sufian et al. (2016) also found similar findings in their studies. The rest of the characteristics of the LSPs viz. age and family size did not show any significant relationship with their participation in systemic market approaches.

Table 8. Coefficient of correlation (r) between selected characteristics of the Local Service Providers with their participation in systemic market approaches at dairy sector (n = 99)

| | Selected characteristics | Correlation Value of 'r' with 97 df |
|---|--------------------------|-------------------------------------|
| Participation in systemic market approaches | Age | 0.156 |
| | Family size | -0.066 |
| | Annual income | 0.214* |
| | Cosmopolitaness | 0.467** |
| | Training received | 0.494** |
| | Innovativeness | 0.312** |
| | Extension media contact | 0.495** |

** , Correlation is significant at the 0.01 level, * , Correlation is significant at the 0.05 level.

In order to assess which selected characteristics contribute to participation in their participation in systemic market approaches, multiple regression analysis was used. Table 9 shows that training received and innovativeness are important contributing factors (at a 5% percent level of significance) while cosmopolitaness and extension media contact is more important contributing factors (at 1% level of significance). The value of R² is a measure of how of the variability in the dependent variable is accounted for by the independent variables. So, the value of R²= 0.47 means that independent variables account for 47.0 percent of the variation with their participation in systemic market approaches. The F ratio is 9.83, which is highly significant (p<0).

Table 9. Multiple regression coefficients of selected characteristics Local service providers with their participation in systemic market approaches at dairy sector (n = 99)

| Dependent variable | Independent Variable | β | P | R ² | Adj. R ² | F |
|---|-------------------------|---------|-------|----------------|---------------------|------|
| Participation in systemic market approaches | Age | 0.036 | 0.657 | 0.47 | 0.42 | 9.83 |
| | Family size | -0.092 | 0.252 | | | |
| | Annual income | 0.094 | 0.255 | | | |
| | Cosmopolitaness | 0.313** | 0.000 | | | |
| | Training received | 0.233* | 0.019 | | | |
| | Innovativeness | 0.190* | 0.023 | | | |
| | Extension media contact | 0.245** | 0.009 | | | |

** Significant at p < 0.01; * Significant at p < 0.05

However, each predictor may explain some of the variances in respondent's participation conditions simply by chance. The adjusted R-square value penalizes the addition of extraneous predictors in the model, but values of 0.42 still show that the variance in respondents' participation can be attributed to the predictor variables rather than by chance and that both are suitable models (Table 9). In summary, the models suggest that the respective authority should consider training received, innovativeness, cosmopolitanness, and extension media contact.

Problem Faced by Local Service Providers in Systemic Market Approaches

Figure 2 depicts the problem faced by Local Service Providers in systemic market approaches. 'Legal permission from Government authority' identified as 1st ranked problem faced by LSPs in systemic market approaches. Firstly, LSPs has no legal permission to serve the services among those areas without DLS concern. Sometimes they are faced various types of social threats during their professions. So, they mostly depend on local authority interests and relations. If the relationship between LSP and DLS become satisfactory then they can serve their profession without disturbance. It is the vital factor to survive in their profession. On the other hand, the demand for his or her services is extremely ethically right with the help of DLS among the dairy producers. Actually, LSPs are emerging from the situational demand of lack of primary treatment and therefore the support from DLS. The last ranked problem faced by LSPs was 'Lack of vehicle service for their movement'. Sometimes they are using bi-cycle, and sometimes they are using local transport. But due to their own vehicle, they could not deliver their optimum services according to field demand. So, LSPs have need to vehicle for delivering their services effectively at the community and its essential factors to build-up networking and linkages with service market actors and as well as producer level.

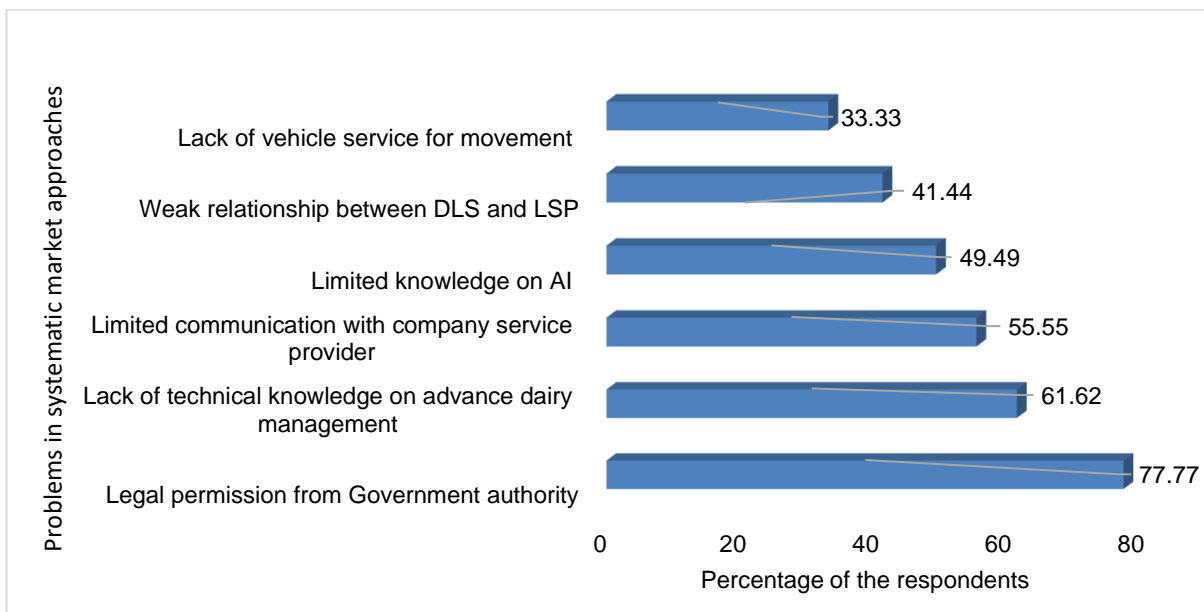


Figure 2. Problem faced by Local Service Providers in systemic market approaches

CONCLUSION

The top-ranked activities regarding the participation of LSPs are referral linkage with DLS for the critical or serious condition of livestock treatment, linkage with dairy producers' group to assessing the demand of information, develop collection points adjacent place of the community. It might be concluded that these activities are very crucial for establishing systemic market approaches. Slightly above four-fifths (84.8 percent) of the respondent had high participation in systemic market approaches. It might be concluded that there is further scope to increase participation in systemic market approaches by market linkage, service insurance, government collaboration, private sector engagement, and regular monitoring. Among seven selected characteristics of the respondents, five characteristics such as annual income, cosmopolitanness, training received, innovativeness, and extension media contact of the respondents had a significant positive relationship with their participation in systemic market approaches. It could be concluded that certain

characteristics of the local service provider play an important role in their participation in a systemic market approach. Cosmopolitaness, training received, innovativeness, and extension media contact of the LSPs had a significant positive contribution with their participation in systemic market approaches in the dairy sector. The LSPs who were more Cosmopolitaness, training received, extension media contact and innovativeness had higher participation in systemic market approaches at dairy sector those who had lower cosmopolitaness, training received, extension media contact and innovativeness. The top-ranked problem (1st) faced by the Local service providers was “legal permission from Government authority,” and the lowest proportion of LSPs faced problems on ‘Lack of vehicle service for their movement” service on dairy subsectors. It might be concluded that these two top-ranked problems faced by the local service providers will, therefore, adversely affect the effort for developing in the systemic market approach.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interests regarding the publication of this paper.

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